

Appendix F

Scoping Issues

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Scoping Issues Summary for Big Porcupine CBM Project EA				
Issue Area - Resource	ISSUE		EA Page Number	Source*
	Direct Effect	Indirect Effect		
NEPA/Other Law, LRMP, & Policy Conformity				
	<ul style="list-style-type: none">Effects of project implementation and interrelated and interdependent actions (connected actions) on affected private or state lands.			1-3
	<ul style="list-style-type: none">Compliance with federal and other regulations regardless of surface or mineral ownership including ESA, MBTA, and BGEPA.			1-3
	<ul style="list-style-type: none">Need to address cumulative impacts from oil and gas and coal development and associated transmission lines, power plants, and sub-stations.			1-3, 2a-2, 4-9
	<ul style="list-style-type: none">Preparation of a Biological Assessment (BA).			1-3
	<ul style="list-style-type: none">Disclose both direct and indirect effects.			2a-2
	<ul style="list-style-type: none">Tiering to Wyodak CBM EIS is illegal.			4-3
	<ul style="list-style-type: none">CBM development is not addressed in either the LRMP or the TBNG O&G EIS; therefore, neither address the impacts of CBM development and need revision prior to this EIS.			4-3
	<ul style="list-style-type: none">FS has deferred consideration of CBM development and its effects till completion of the PRB O&G EIS – to continue with this analysis would be piece-mealing.			4-5
	<ul style="list-style-type: none">340 federal wells are based on illegal leases.			4-6
	<ul style="list-style-type: none">Analyze all potential environmental impacts prior to the full commitment of resources made in granting approval of a multi-well project.			4-9
	<ul style="list-style-type: none">An EIS is required for this project due to the project having significant impacts.			4-13
	<ul style="list-style-type: none">Is the proposed development “tierable” to the Wyodak Drainage EA?			6-1
	<ul style="list-style-type: none">Several wells (Section 18, T42N,R70W) fall outside of the Wyodak EIS and Wyodak Drainage EA boundary – not “tierable”			6-1

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Alternatives including Proposed Action				
	<ul style="list-style-type: none">Disposal of produced water by injection into same coal seam/other formation – eliminates erosion and sedimentation, adverse impacts to water quality, fish, wildlife, plants.	<ul style="list-style-type: none">Lowers risk of surface and coalbed fires, methane seepage and contamination of aquifers/wells and homes/buildings, and subsidence, water depletion.		1-8, 4-6
	<ul style="list-style-type: none">Cluster pipelines, access roads, and compressor stations and bury power lines within existing ROWs.	<ul style="list-style-type: none">Reduce cost of operation, wildlife habitat fragmentation, acreage of disturbance.		1-8, 2a-3
	<ul style="list-style-type: none">Power compressors/generators with natural gas.	<ul style="list-style-type: none">Reduce toxic air emissions and health risks to wildlife		1-8&9
	<ul style="list-style-type: none">Fit compressors with high quality mufflers to minimize noise levels.	<ul style="list-style-type: none">Reduce noise pollution.		1-9
	<ul style="list-style-type: none">Need for adequate buffer zones to protect habitat during construction and operations.			1-9
	<ul style="list-style-type: none">Development should be phased over time.	<ul style="list-style-type: none">Reduce intensity of impacts to fish and wildlife pop’n and habitat.		1-9, 4a-10
	<ul style="list-style-type: none">Need to control noxious weeds on disturbed lands.			1-9
	<ul style="list-style-type: none">Need to reclaim disturbed areas with native soil and native plants immediately after cessation.			1-9
	<ul style="list-style-type: none">Need to consider effects of the development throughout life of the project.			2a-3
	<ul style="list-style-type: none">Consider requiring wireless monitoring of all wells.	<ul style="list-style-type: none">Reduce human presence impact to wildlife during production.		2a-3
	<ul style="list-style-type: none">Encourage creation of access opportunities to public lands previously landlocked by private land constraints	<ul style="list-style-type: none">Reduce human impacts to currently accessible public lands by dispersing people of larger public area.		2a-3
	<ul style="list-style-type: none">Consider using produced water for enhancement of fish and wildlife habitats.			2a-3
	<ul style="list-style-type: none">Absence of agreements between producers and downstream landowners to mitigate effects.			3-1
	<ul style="list-style-type: none">Need a full range of alternatives that protect surface owners.			4-6
	<ul style="list-style-type: none">Adopt alternative that excludes roads and well pads from crucial winter range and aggregates wells in other areas	<ul style="list-style-type: none">Grant no exceptions to stipulation for crucial winter range.		4-9

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	Direct Effect	Indirect Effect		
	onto single well pads through use of directional drilling.			
	<ul style="list-style-type: none"> Develop management areas to facilitate more site-specific management approaches and mitigation measures to protect resources. 			4a-6
	<ul style="list-style-type: none"> Do not lease any more lands for CBM development until the RMP is amended and a subsequent lease-specific EIS is prepared. 			4a-6
	<ul style="list-style-type: none"> Consider use of alternative and innovative technologies: <ul style="list-style-type: none"> Recycling of drilling fluids Desalinization and water treatment Alternative fuel sources Reduction of intentional methane venting Water injection technology 			4a-7
	<ul style="list-style-type: none"> Adopt an adaptive environmental management (AEM) process to implement, monitor, and enforce provisions of the decision produced at the end of this NEPA analysis. 			4a-8
	<ul style="list-style-type: none"> Develop and implement an inspection and enforcement program. 			4a-9
	<ul style="list-style-type: none"> Employ directional drilling technologies to reduce environmental impacts. 			4-10
	<ul style="list-style-type: none"> Consider 80-acre well spacing as alternative to the proposed 40-acre spacing. 	<ul style="list-style-type: none"> Effects on North Rochelle Mine operations 		5-1, 7-2
	<ul style="list-style-type: none"> Develop plan to develop CBM wells which will minimize impact to North Rochelle Mine current and proposed operations. 			7-1
	<ul style="list-style-type: none"> Apply best available control technology (BACT) to control emissions/dust (including magnesium chloride, use of durable gravel for roads. 			7-2
	<ul style="list-style-type: none"> Install air quality monitoring devices between CBM development and North Rochelle Mine to quantify impacts of CBM on mine's air quality compliance. 			7-2
Geology, Minerals, and GeoHazards				
	<ul style="list-style-type: none"> Effects of water production and drop of hydrostatic pressure 	<ul style="list-style-type: none"> Effects of methane seepage and 		1-7, 4-2, 4-7

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	Direct Effect	Indirect Effect		
	on methane seepage.	venting to the soil and atmosphere on human health and safety, vegetation, fish, and wildlife. <ul style="list-style-type: none"> Effect of cross contamination of methane into shallow aquifers. 		1-8
	<ul style="list-style-type: none"> Effect of dewatering on potential for coalbed fires. 	<ul style="list-style-type: none"> Effects of coalbed fires on potential for toxic gas emissions, slumping of overburden, forest/prairie fires, and loss of natural resource-related values. 		1-8, 4-2
	<ul style="list-style-type: none"> Need stratigraphic profile of area plus lithic composition of strata. 			1-9
	<ul style="list-style-type: none"> Effect of produced water migrating through lithologies that may introduce chemicals which in turn may contaminate other aquifers. 	<ul style="list-style-type: none"> Effect of contaminated aquifers that may provide water source of important fish and wildlife habitat (riparian/wetlands) and may be connected hydrologically to river basins 		1-9
	<ul style="list-style-type: none"> Effects on planned and proposed coal mining operations in Sections 5, 7, 8, 9, 10, & 15, T42N, R70W. 			7-1
	<ul style="list-style-type: none"> Effects of CBM development on proposed West Roundup LBA tract 			
Water Resources				
	<ul style="list-style-type: none"> Effects of surface discharge of produced water with selenium concentrations exceeding 2 µg/L. 	<ul style="list-style-type: none"> Effects of impounding produced water in seleniferous soils. 		1-6, 1-7
	<ul style="list-style-type: none"> Effects of surface discharge of produced water containing high concentrations of dissolved salts – both the effects of high salinity and high SAR are of concern regarding suitability for irrigation and potential toxicity to native plants. 	<ul style="list-style-type: none"> Effects of discharge on important wildlife habitat such as riparian or streamside areas 		1-7
	<ul style="list-style-type: none"> Effects of discharging large volumes of highly saline water into rivers and streams on stream temperature and hydrology, stream erosion and sedimentation. 	<ul style="list-style-type: none"> Effect of discharged, saline produced water on fish spawning habitat and fish/aquatic invertebrate growth and survival. 		1-7, 3-1
	<ul style="list-style-type: none"> Effects of impoundments that would restrict spring-flows 	<ul style="list-style-type: none"> Effects on maintaining downstream 		2a-2, 3-1

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	recharge of downstream wetland/riparian areas and concentrate salts and sodium by evaporation.	vegetation and wildlife communities and irrigated lands (soils and crops).		
	<ul style="list-style-type: none"> Short- and long-term affects on groundwater. 			3-1
	<ul style="list-style-type: none"> Effects of ice jams created by produced water. 	<ul style="list-style-type: none"> Effects on irrigated soils/ vegetation 		3-1
	<ul style="list-style-type: none"> Effects of produced water discharges on SD's surface water quality standards. 			3-1
	<ul style="list-style-type: none"> Effect of the discharge of a produced water quantity in excess of 13 million gallons per day 	<ul style="list-style-type: none"> Effect on aquifers, recharge, water table levels, biodiversity of floodplains, stream bank/channel erosion, loss of native grassland, salinization/sodification of soils, and invasion of exotic weeds. 		4-2, 4-7
	<ul style="list-style-type: none"> Effects of produced water quality when discharged – compliance with federal, state, and local regulations. 	<ul style="list-style-type: none"> Effect on fisheries pop'n, recreation opportunities, wildlife, and livestock, high salt concentrations in soils. 		4-2, 4-7
	<ul style="list-style-type: none"> Water and soil testing is mandatory for point of actual discharge, points along ephemeral streams, ditches, or waterways carrying produced water flow, and points along perennial streams. 			4-7
	<ul style="list-style-type: none"> Effects of water discharge on coal mining water handling and highwall and spoil stability. 			7-1
Air Quality				
	<ul style="list-style-type: none"> Effects of toxic emissions from gas-fired compressor engines/generators including sulfur dioxide, nitrous oxide, carbon monoxide, carbon dioxide, and formaldehyde. 			1-8
	<ul style="list-style-type: none"> Effects of dust generated from increased traffic on unpaved roads. 			1-8
	<ul style="list-style-type: none"> Cumulative impacts to air quality related values. 	<ul style="list-style-type: none"> Effects of air quality on wildlife, vegetation, human health, and visibility impairment in Class I and II areas. 		4-8
Soils				
	<ul style="list-style-type: none"> Short- and long-term affects to soils. 			3-1
	<ul style="list-style-type: none"> Effects on soil erosion from well discharges 			4-2, 4-7

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	<ul style="list-style-type: none"> Effects of discharged produced water on playas, closed basins, poorly-drained soils, soils with poor reclamation potential, 	<ul style="list-style-type: none"> Effect of invasion of weeds and salt-tolerant species. 		4-7
Vegetation				
	<ul style="list-style-type: none"> Effects on riparian vegetation. 	<ul style="list-style-type: none"> Effects of disturbing riparian areas on reducing erosion and sedimentation, maintaining water quality and water table, controlling flooding, and providing shade and cover to wildlife. 		1-7
	<ul style="list-style-type: none"> Need plant inventories in each CBM field prior to development. 			1-9
	<ul style="list-style-type: none"> Short- and long-term affects to vegetation. 			3-1
	<ul style="list-style-type: none"> Effect of loss of native vegetation and invasion of exotic weed species. 			4-8
	<ul style="list-style-type: none"> Effects of 40-acre spacing vs 80-acre spacing on vegetation. 			5-1
Wildlife				
	<ul style="list-style-type: none"> Effects of power lines on raptor and waterfowl mortality. 			1-5, 2a-3, 6-1
	<ul style="list-style-type: none"> Effect of coalbed methane development – activity and facilities - on wildlife habitat fragmentation – migration routes, breeding activity. 			1-8
	<ul style="list-style-type: none"> Need for fish and wildlife inventories in each CBM field prior to development. 			1-9
	<ul style="list-style-type: none"> Need for more baseline studies to identify important habitats and use over entire area, particularly for mule deer and antelope. 			2a-1, 2a-2
	<ul style="list-style-type: none"> Effects of higher vehicular traffic on wildlife due to collisions. 			2a-2
	<ul style="list-style-type: none"> Net effects to sage grouse pop'n from roads, power lines, and facilities in project area. 			2a-2
	<ul style="list-style-type: none"> Effects of above ground power lines providing perches for raptors near sage grouse leks. 			2a-3
	<ul style="list-style-type: none"> Effects on fisheries populations. 			4-2
Cultural Resources				

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	Direct Effect	Indirect Effect		
Land Use				
	<ul style="list-style-type: none"> Short- and long-term affects on crops. 			3-1
	<ul style="list-style-type: none"> Effect of saline/sodic waters from evaporation and ice jams on irrigated soils and vegetation. 			3-1
	<ul style="list-style-type: none"> Effects on agricultural operations. 			3-1
	<ul style="list-style-type: none"> Effect of significant surface disturbance (750 A). 	<ul style="list-style-type: none"> Effects of additional particulate matter (PM10) on local and regional air quality. 		7-2
Livestock Management				
	<ul style="list-style-type: none"> Effects of 40-acre spacing vs 80-acre spacing on vegetation of permit area. 			5-1
Recreation				
	<ul style="list-style-type: none"> Effects of possible displacement of antelope during field development in Antelope Hunt Area 27. 			2a-2
Visual Resources				
Noise				
	<ul style="list-style-type: none"> Effect of noise produced by operating compressors 	<ul style="list-style-type: none"> Effects to. health of wildlife. 		1-8
Socio-economics & Quality of Life				
	<ul style="list-style-type: none"> Project could be a large income producer. 			2d-1
	<ul style="list-style-type: none"> Potential effects/damages to private/county property and absence of agreements with downstream landowners. 			3-1
	<ul style="list-style-type: none"> Effects on coal mining costs and monetary accruals due to additional water handling costs and delays and interruptions in coal mine development to accommodate CBM development. 			7-1
	<ul style="list-style-type: none"> Economic value of coal mining greatly outweighs the economic value of CBM. 			7-1
	<ul style="list-style-type: none"> Effect of CBM development over the West Roundup LBA tract to the fair market value of bonus bids. 			7-2
Health & Safety				
	<ul style="list-style-type: none"> Effect on coal mining safety 			7-1

* Sources of Comments by document number-page:

1. USFWS. March 19, 2002
2. State of Wyoming Office of Federal Land Policy. March 28, 2002.
 - a. Wyoming Game and Fish Department. March 21, 2002.
 - b. Wyoming Department of State Parks & Cultural Resources – SHPO. March 12, 2002.
 - c. Wyoming Business Council. March 19, 2002.
 - d. Wyoming Office of State Lands and Investments. March 6, 2002.
3. Niobrara County Commissioners. March 18, 2002. **and** Ruffing, D., Niobrara County Commissioner. March 26, 2002. Personal communication (telephone) with Liz Moncrief, USFS ID Team Leader; notes of call and identification of concerns recorded by Liz Moncrief. D.Ruffing, Niobrara County Commissioner, telephone no. 307-334-3239.
4. Wyoming Outdoor Council, Biodiversity Associates, National Wildlife Federation, and Sierra Club. March 22, 2002.
 - a. Wyoming Outdoor Council, Powder River Basin Resource Council, Biodiversity Associates, and Oil and Gas Accountability Project. October 9, 2002. Protecting Wyoming’s People, Land, Water and Air: A Citizen’s Proposal to Conserve Wyoming’s Heritage in the Powder River Basin.
5. Wilkerson, J. April 13, 2002. Personal communication (telephone) with Liz Moncrief, USFS ID Team Leader; notes of call and identification of concerns recorded by Liz Moncrief. J.Wilkerson telephone nos. 307-680-3154 & 307-464-0102.
6. Rogers, B. USFWS. March 4, 2002. Personal communication (telephone) with Liz Moncrief, USFS ID Team Leader; notes of call and identification of concerns recorded by Liz Moncrief. B.Rogers telephone no. 307-772-2374.
7. Triton Coal Company, LLC – North Rochelle Mine. April 12, 2002.